

Dental Trauma: A Brief Overview

James Collins*

Editorial Office, Journal of Dental Research and Practice, Belgium

Corresponding Author*

James Collins
Editorial Office
Journal of Dental Research and Practice,
Belgium
E-mail: dentistry@emedscholar.com

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Opinion

Trauma (damage) to the teeth and/or periodontium (gums, periodontal ligament, alveolar bone), as well as adjacent soft tissues such as the lips, tongue, and so on, is referred to as dental trauma. Dental traumatology is the study of dental trauma. The most prevalent cause of irreversible incisor loss in children is trauma. Dental trauma frequently leads in the major consequence, such as pulpal necrosis, and it is practically difficult to determine the long-term prognosis of the wounded tooth, which frequently results in long-term restorative complications.

Dental injuries include the following:

- Infraction of the enamel
- Enamel cracking
- Enamel-dentine fracture
- Pulp exposure due to enamel-dentine fracture
- Tooth root fracture

Dental trauma to the primary teeth may result in irreversible tooth damage. Damage to permanent teeth, particularly during the development period, may have the following consequences:

- Dilaceration of the crown
- Malformation like an odontoma
- Permanent tooth germ sequestration
- Dilaceration of the roots
- Root development is halted

Soft tissue injuries are typically seen in conjunction with dental trauma, and the regions most commonly damaged include the lips, buccal mucosa, gingivae, fraenum, and tongue. Lips and gingivae are the most commonly injured areas. It is critical to rule out the presence of foreign items in wounds and lacerations on the lips by meticulous inspection. X-rays can be used to identify potential foreign items. Small gingival injuries normally heal on their own and do not require treatment. This, however, might be one of the clinical signs of alveolar fractures.

Gingival bleeding, particularly around the margins, may suggest damage to the tooth's periodontal ligament. If the oral mucosa is damaged, the facial nerve and parotid ducts should be inspected. Deep tissue wounds should be treated with absorbent sutures in layers. Injuries to deciduous teeth are most prevalent between the ages of 2 and 3 while coordination is developing. If a deciduous tooth is destroyed, the treatment should emphasize the adult's teeth's safety while avoiding the possibility of injuring a permanent successor. This is because the root of a baby's tooth is near to the germ of an adult tooth.

As a result, if it is discovered to have infiltrated the growing adult tooth germ, the displaced deciduous teeth are extracted. In this situation, parents should be told of any potential issues, such as enamel hypoplasia, hypomineralization, crown/root dilatation, or disruption of the tooth rash sequence.

Pulp necrosis, pulp blockage, and root separation are all possibilities for squeaks. The most prevalent problem is necrosis, and the assessment is often based on colours reinforced by X-ray guidance. The colour shift might indicate that the teeth are still significant, but if it persists, it most likely isn't. Damage to the periodontal ligament or root fractures can cause teeth to loosen. Splinting keeps the tooth in the right place within the socket, preventing further damage and allowing for recovery. Splints can be flexible or stiff. Flexible splints enable for functional mobility while not fully immobilising the traumatized teeth. Rigid splints, on the other hand, entirely immobilise the traumatized teeth.

According to the International Association of Dental Traumatology (IADT) standards, using flexible, non-rigid splints for a short length of time promotes both periodontal and pulpal healing if the traumatized tooth is given minor mobility and the splinting time is not too long. Pulp necrosis most commonly manifests as ischemia necrosis induced by an interruption in blood flow to the apical foramen or as infection-related liquid necrosis following trauma.

The following are symptoms of pulp necrosis:

- Non-fading teeth with persistent grey
- X-ray evidence of inflammation towards the apex
- Infection symptoms include soreness, sinusitis, suppuration, and swelling

Deciduous teeth might be extracted as a treatment option. Endodontic therapy for permanent teeth is an option. Dental trauma is most prevalent in children, accounting for 17% of physical injuries in children aged 0 to 6 years, with an overall average of 5%. It is more common in men than in women. Traumatic tooth injury is more prevalent in permanent teeth than in deciduous teeth and mainly affects the maxillary front teeth. The mouth area accounts for 1% of total body area yet accounts for 5% of all physical injuries. Mouth injuries account for up to 17% of all physical injuries in preschool children.

Dental traumatic accidents are affected by one's activity level as well as the surrounding environment, but they are the primary risk factors when compared to a person's age and gender. The most prevalent cause of irreversible incisor loss in children is trauma. Dental trauma frequently leads in the major consequence, such as pulpal necrosis, and it is practically difficult to determine the long-term prognosis of the wounded tooth, which frequently results in long-term restorative complications.

The most effective trauma prevention method is the wearing of mouthguards during sports and other high-risk activities such as military training. It is generally used on the upper teeth since it is more likely to cause tooth damage than the lower teeth.

The mouthguard should ideally be pleasant for the user, simple to hold, odourless and tasteless, and made of a substance that is safe for the body. However, studies in diverse high-risk groups of tooth injury have frequently documented poor compliance by those who wore mouthguards during activities on a regular basis. Furthermore, routine usage is insufficient to avoid tooth injuries, and even the use of a mouthguard might result in injuries. This is due to the fact that customers do not always know the optimum brand or size, resulting in a poor fit.